**Chapter 16 – Waste Generation and Waste Disposal**

**Introduction – Paper or Plastic?** Write a paragraph summary about the article.

**Module 51 – Only Humans Generate Waste**

I. Learning Objectives

A.

B.

II. Humans Generate Waste

A. List the inputs and outputs of the solid waste system.

B. Waste –

C. What is a “throw-away society”?

D. Municipal Solid Waste (MSW) –

1. In the United States, \_\_\_\_\_\_\_\_% of MSW comes from residences and \_\_\_\_\_\_\_\_%

from commercial and industrial facilities.

2. Identify three other kinds of waste generated in the United States

3. Explain the Total MSW and Per Capita generation trend in the United States.

E. What is the waste stream?

1. Before recycling, list the top three sources and percentages of MSW in the

United States.

2. List the top three sources and percentages of products recovered.

3. List the top three sources and percentages of products discarded.

4. What is E-Waste? List three examples.

F. Review questions p. 560.

**Module 52 – The Three R’s and Composting**

I. Learning Objectives

A.

B.

II. Three R’s

A. What are the three R’s? Define each.

B. Differentiate between closed-loop and open-loop recycling. Give an

example of each.

C. Describe the trend of Total MSW recycled and percentage recycled.

D. What is composting?

E. List two type of composting systems and an advantage of each.

F. Review questions p. 567.

**Module 53 – Landfills and Incineration**

I. Learning Objectives

A.

B.

II. Landfills

A. What is the primary destination for MSW?

B. Identify the percentages of the following categories:

Discarded \_\_\_\_\_\_\_\_

Reuse, recycle, compost \_\_\_\_\_\_\_

Combustion with energy recovery \_\_\_\_\_\_\_

C. What is a sanitary landfill?

D. Briefly, list the five steps of how a sanitary landfill works.

E. Explain the role of each component of the sanitary landfill:

1. Sand

2. Clay liner

3. Gravel

4. Leachate collection system

5. Methane extraction system

F. What are some problems with choosing a site for a landfill?

G. What are some environmental consequences of landfills?

H. Do the Math – Your Turn p.572.

III. Incineration

A. Describe the process of incineratipon.

B. Define the following:

1. Ash –

2. Bottom Ash –

3. Fly Ash –

C. What are some consequences of incineration?

D. What is a “Waste-to-Energy- System”?

E. Review questions p. 574.

**Module 54 – Hazardous Waste**

I. Learning Objectives

A.

B.

II. Hazardous Waste

A. What are hazardous wastes? List five sources of hazardous wastes.

B. How are hazardous wastes safely collected and disposed?

C. Name two agencies which oversee and regulate the treatment of

hazardous wastes.

1. Describe the Superfund Act.

2. What are Brownfields?

D. What are some international consequences of hazardous wastes?

E. Review questions p. 578.

**Module 55 – New Ways to Think About Solid Wastes**

I. Learning Objectives

A.

B.

II. Life-Cycle Analysis

A. What is Life-Cycle Analysis?

B. What is Integrated waste management?

C. Review questions p. 582.